

***The Institution of Engineers, Australia: Sydney Division
Engineering Heritage Committee***

Oral History Program: Biographical Notes

**Dr John Louis GOLDBERG (1931 -)
Noise and Vibration (Accoustics) Engineer**

- Birth & Family:** Sydney, 1 April, 1931. Father was a solicitor and his mother worked at home. He has one younger sister. John married and had two sons.
- Education:** Primary - Rose Bay Public School (1 year), the boarding school to 9 years of age, and finally Beecroft School. (*Stop missing*)
Secondary - Fort Street High School.
- Qualifications:** 1953, Bachelor of Science, University of Sydney
1963, Masters of Engineering, University of Sydney
1986, Ph.D., University of Sydney
- Memberships:** International Institute for Acoustics and Vibration
The Australian Acoustical Society (*Alignment problem*)
New Zealand Acoustical Society (*Alignment problem*)
Board for Acoustic and Vibration Standards, Standards Association of Australia (*Alignment problem*)
Chairman of Committee AV9-3, Air Blast over pressure and Ground Vibration
Registration Advisory Committee for Acoustics and Vibration, National Association of Testing Authorities
Research and Education Committee of the NSW Submarine Task Force
- Awards:**
- Work History:** First job was as an Assistant Engineer in the microwave division of Standard Telephones and Cables, working on microwave telephony links for South Australia. Compiled handbook for it. Felt this work at STC was pioneering; a major project involving long distance, harsh terrain, novel technology, with a large number of channels needed. It was a forerunner for mobile phone technology in the 1950s.
- Another project was developing the use of transistor circuits in pulse time modulation systems.
- In 1957 accepted a position at National Standards Lab at CSIRO. One of his projects was the development of radio frequency amplifiers, developing stable RF amplifiers, application of electrical techniques to mechanical measurement.
- In 1971 established the first Australian national standard of vibration measurement using optical interference techniques. His method was acknowledged in the former Soviet Union by the Mendelev Institute of Metrology, Leningrad in its publications.
- In 1972 undertook research and findings on supersonic noise levels and boom problems.
- Most important and interesting project was the investigation of the failure of three major 500-megawatt generators at Liddell Power Station in 1982. Felt it was caused by vibration failure and fatigue failure. Undertook investigation involving vibration properties of the windings.

Found pattern in vibration during investigation and presented paper on findings at French conference.

In 1979 invited to speak at 50th anniversary of US Naval Research Laboratory, Shock & Vibration Symposium for his work on roof damping.

In 1982 and again in 1986 investigated Japanese and Swiss power station construction techniques for ELCOM.

In 1986 visited Howald Werke Deutsche-Werft in Kiel and Kockums in Malmo in Sweden, arranged through his membership of education and research submarine taskforce for the NSW government.

In 1987 appointed by Bob Carr (Premier of NSW) to sit on bench with Commissioner Woodward to hear the evidence to the Commission of Inquiry on acoustic and vibration matters related to the BHP Steel Mill at Rooty Hill. His role was to ensure that there was integrity about the evidence.

Just before his retirement in 1989 he was the Senior Principal Research Scientist at CSIRO Division of Applied Physics.

Following his retirement he was invited to take up a position as Honorary Associate at University of Sydney. He was a consultant on the Third Runway at Sydney Airport, and served as an expert witness on Commissions of Inquiry, the Land and Environment Court, a Federal Senate Inquiry and various other inquiries.

He also carried out research and consulting on transport noise, especially fixed-wing aircraft and helicopters and road traffic; environmental acoustics and air-blast and vibration damage to buildings.

He is interested in reading history, likes fishing and plays tennis.

Prepared by Freda Garnsey, 11 December 2002 from oral history interview conducted on 2 June 1999. (*Align left*)